

Exhibit 1

IEEE 100



**E
AUTHORITATIVE
DICTIONARY
OF IEEE STANDARDS TERMS
SEVENTH EDITION**



Published by
Standards Information Network
IEEE Press

controlled-speed axle generator

234

control mechanism

controlled-speed axle generator An axle generator in which the speed of the generator is maintained approximately constant at all vehicle speeds above a predetermined minimum. *See also:* axle-generator system. (EEC/PE) [119]

controlled system (automatic control) The apparatus, equipment, or machine used to effect changes in the value of the ultimately controlled variable. *See also:* control system. (PE/EDPG) [3]

controlled vented power fuse (installations and equipment operating at over 600 volts, nominal) A fuse with provision for controlling discharge circuit interruption such that no solid material may be exhausted into the surrounding atmosphere. The discharge gases shall not unite or damage insulation in the path of the discharge nor shall these gases propagate a flashover to or between grounded members or conduction members in the path of the discharge when the distance between the vent and such insulation or conduction members conforms to manufacturer's recommendations. (NESC/NEC) [86]

controller (1) (electric pipe heating systems) A device that regulates the state of a system by comparing a signal from a sensor located in the system with a predetermined value and adjusting its output to achieve the predetermined value. Controllers, as used in electric pipe heating systems, regulate temperatures on the system and can be referred to as temperature controllers or thermostats. Controller sensors can be mechanical (bulb, bimetallic) or electrical (thermocouple, resistance-temperature detector [RTD] thermistor). (PE/EDPG) 622A-1984r, 622B-1988r

(2) A device or group of devices that serves to govern, in some predetermined manner, the electric power delivered to the apparatus to which it is connected. (NESC/NEC) [86]

(3) (packaging machinery) A device or group of devices that serves to control in some predetermined manner the apparatus to which it is connected. (IA/PKG) 333-1980w

(4) The component of a system that functions as the system controller. A controller typically sends program messages to and receives response messages from devices. (IM/AIN) 488.2-1992r

(5) (A) A functional unit in a computer system that controls one or more units of the peripheral equipment. *Synonym:* peripheral control unit. *See also:* input-output controller; dual-channel controller. (B) In robotics, a processor that takes as input desired and measured position, velocity or other pertinent variables and whose output is a drive signal to a controlling motor or activator. (C) A device through which one can introduce commands to a control system. (C) 610.10-1994

(6) The entity that initiates RamLink transactions. There is exactly one controller on each RamLink ringlet. (C/MM) 1596.4-1996

(7) A device or group of devices used to control in a predetermined manner the electric power delivered to the apparatus to which it is connected. (IA/MT) 45-1998

(8) (CAMAC system) *See also:* CAMAC crate.

(9) *See also:* SBus Controller. (C/BA) 1496-1993w

Controller *See:* SBus Controller.

controller, automatic *See:* automatic controller.

controller characteristics (thyristor) The electrical characteristics of an ac power controller measured or observed at its input or output terminal. (IA/IPC) 428-1981w

controller current (thyristor) The current flowing through the terminals of the controller. (IA/IPC) 428-1981w

controller diagram (electric-power devices) A diagram that shows the electric connections between the parts comprising the controller and that shows the external connections. (IA/IAC) 270-1966w, [60]

controller equipment (thyristor) An operative unit for ac power control comprising one or more thyristor assemblies together with any input or output transformers, filters, other switching devices and auxiliaries required by the thyristor ac power controller to function. (IA/IPC) 428-1981w

controller faults (thyristor) A fault condition exists if the conduction cycles of some semiconductors are abnormal. (IA/IPC) 428-1981w

controller ON-state interval (thyristor) The time interval in which the controller conducts. *Note:* It is assumed that the starting instant of the controller ON-state interval is coincident with the starting instant of the trigger pulse. (IA/IPC) 428-1981w

controller power transformer (thyristor) A transformer within the controller employed to provide isolation or the transformation of voltage or current, or both. (IA/IPC) 428-1981w

controller section (thyristor) That part of a controller circuit containing the basic control elements necessary for controlling the load voltage. (IA/IPC) 428-1981w

controller, self-operated *See:* self-operated controller.

controllers for steel-mill accessory machines Controllers for machines that are not used directly in the processing of steel, such as pumps, machine tools, etc. *See also:* electric controller. (IA/IAC) [60]

controllers for steel-mill auxiliaries Controllers for machines that are used directly in the processing of steel, such as screw-downs and manipulators but not cranes and main rolling drives. *See also:* electric controller. (IA/IAC) [60]

controller, time schedule *See:* time schedule controller.

control line The line, connected to the memory transistor control element, that provides the reference voltage to the memory cell during a read and may provide a high voltage during a write cycle. (ED) 1005-1998

controlling element, final *See:* final controlling element.

controlling elements The functional components of a controlling system. *See also:* feedback control system. (IM/PE/EDPG) [120], [3]

controlling elements, forward *See:* forward controlling elements.

controlling means (of an automatic control system) Consists of those elements that are involved in producing a corrective action. (PE/PSE) 94-1970w

controlling section A length of track consisting of one or more track circuit sections, by means of which the roadway elements or the device that governs approach to or movement within a block are controlled. (EEC/PE) [119]

controlling system (1) (automatic control system without feedback) That portion of the control system that manipulates the controlled system. (IM/PE/EDPG) [120], [3]

(2) (control system feedback) The portion that compares functions of a directly controlled variable and a command and adjusts a manipulated variable as a function of the difference. *Note:* It includes the reference input elements; summing point; forward and final controlling elements; and feedback elements. *See also:* feedback control system. (IM/PE/EDPG) [120], [3]

controlling voltage, composite *See:* composite controlling voltage.

control loopback Loopback of output from one function to be control for another function in the same diagram. *Synonym:* feedback. (C/SE) 1320.1-1998

control machine (A) (railroad practice) An assemblage of manually operated levers or other devices for the control of signals, switches, or other units, without mechanical interlocking, usually including a track diagram with indication lights. *See also:* car retarder. (B) (railroad practice) A group of levers or equivalent devices used to operate the various mechanisms and signals that constitute the car retarder installation. *See also:* centralized traffic-control system; car retarder. (EEC/PE) [119]

control, manual *See:* manual control.

control mechanism (control systems for steam turbine-generator units) Includes all systems, devices, and mechanisms between a controller and the controlled valves. (PE/EDPG) 122-1985s